Letters to the Editor

The Board of Editors does not hold itself responsible for opinions expressed in the letters published in this section. The notes containing short reports of original investigations communicated to this section should not contain many figures and should not exceed 500 words in length. The contributions reaching that the Secretary by the 15th of any month may be expected to appear in the issue for the next month. No proof will be sent to the author.

17

CRYSTALLOGRAPHIC STUDY OF 3-NITRO-4-HYDROXY PHENYLARSONIC ACID

K. N. GOSWAMI AND SANKAR K. DATTA

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE, CALCUTTA-32

(*Received, August 20, 1963*)

As analytical reagents, arsonic acid and substituted arsonic acids combine more or less preferentially with quadrivalent metals. The 3-nitro-4-hydroxy phenylarsonic acid has been used to precipitate cadmium from acetic acid solutions. Very little structural work has been done on this series so far and therefore we have undertaken an x-ray study of this compound to elucidate its molecular structure.

Satisfactory single crystals were grown by slow evaporation of an alcoholic solution of this compound. The crystals were small thin yellow plates. Oblique extinctions were observed when the crystals were examined in polarized light. The crystals were biaxial positive.

The unit-cell dimensions were obtained from oscillation and Weissenberg photographs along [010] and [001] axes using nickel filtered CuK_α radiation. The camera diameter was standardized from the powder lines obtained by sprinkling the crystals with aluminium powder. The axes were so labelled as to confirm to standard crystallographic practice, as shown below.

$a = 5.54$ Å, $\alpha = 95°32'$

$b = 8.39$ Å, $\beta = 99°15'$

$c = 11.81$ Å, $\gamma = 125°9'$

No systematic extinctions were observed for (*hol*) and (*hko*) reflections. The space group could therefore be either $P1$ or $P\bar{1}$

The density, measured by flotation method in a mixture of Carbontetrachloride and bromoform was found to be 2.05 gm cm^{-3} which compares favourably with the calculated value 2.03 $gm.cm^{-3}$ on the basis of 2 molecules per unit cell Further work is in progress

ACKNOWLEDGMENT

Authors wish to express their sincere thanks to Prof B N. Srivastava, D.Sc., F.N.I., for his keen interest in this work.